

ENGINEERING TECHNICIAN SERIES

Code No.	Class Title	Occ. Area	Work Area	Prob. Period	Effective Date
3970	Engineering Technician I	02	032	6 mo.	1/3/84
3971	Engineering Technician II	02	032	6 mo.	1/3/84
4627(3971)	Engineering Technician III	02	032	6 mo.	1/3/84
2161(0919)	Building Maintenance Coordinator	02	032	6 mo.	1/3/84

Promotional Line: 229

Series Narrative

Engineering Technicians perform a variety of building inspections, surveys, and other tests to determine proper maintenance requirements for structural, electrical, and/or mechanical equipment. They issue repair orders to appropriate maintenance staff and monitor and document the progress of maintenance or repair projects. They may also supervise other Engineering Technicians and assist in planning and coordinating construction, remodeling, maintenance, and repair projects.

DESCRIPTIONS OF LEVELS OF WORK

Level I: Engineering Technician I

3970

Employees in positions allocated to this class perform routine technical duties in inspecting mechanical, electrical, and/or structural equipment. They work under the direct supervision of higher level Engineering Technicians, engineers, or other designated supervisors.

An Engineering Technician I typically –

1. conducts inspections or investigations of buildings or building equipment using standard techniques, tables, diagrams, and charts, such as one or more of the following:
 - a. conducting building inspections to determine interior and exterior structural maintenance and repair requirements and recording fire and safety hazards
 - b. conducting preventive maintenance inspections of building electrical and mechanical systems and structural components
 - c. reading and recording use of electricity from meters in electric distribution centers and the power plant
 - d. investigating requests from building occupants regarding water leaks and noise, vibration, electrical, lighting, heating, and cooling problems
 - e. assisting higher level Engineering Technicians in conducting roofmoisture surveys by collecting data from meters or core samplings

2. prepares work orders and inspection documentation outlining problem and estimating extent of repair
3. operates simple tests instruments (such as receptacle polarity checkers, tachometers, vibration meters, and velometers); records results of system tests (such as electrical, lighting, heating, or cooling systems)
4. performs related duties as assigned

Level Engineering Technician II**3971**

Employees in positions allocated to this class perform sequences of technical operations in the inspection and coordination of mechanical, electrical, and/or structural equipment that require a working knowledge of construction methods or techniques. They work under the general supervision of higher level Engineering Technicians, engineers, or other designated supervisors.

An Engineering Technician II typically –

1. performs or coordinates inspections, investigations, or surveys, such as one or more of the following:
 - a. performing mechanical, structural, or electrical inspections and monitoring general maintenance of buildings and equipment and engineering projects under the supervision of an engineer
 - b. analyzing vibration readings and dynamically balancing air-handling equipment, using such equipment as vibration analyzers and counter weights
 - c. taking air-flow measurements and making recommendations for adjustments or repairs
 - d. performing land-survey work, including building layouts and elevations and setting grade stakes
 - e. conducting roof-moisture surveys by inspection, core sampling, and interpretation of meter readings; analyzing data and preparing reports of findings and recommendations; recommending priorities for roof repairs and replacements
 - f. conducting surveys used to determine division of costs for maintenance, repair, or construction work; coordinating results with departments; resolving differences; and issuing final report
2. plans, coordinates, schedules, and monitors progress of minor repair projects
3. may train and monitor the work of Engineering Technician I's and/or student employees
4. operates tests instruments (such as voltmeters, ammeters, frequency counters, and spectrum analyzers)
5. performs related duties as assigned

Level III: Engineering Technician III**4627(3971)**

Employees in positions allocated to this class perform complex technical and other duties in one or more broad technical programs. They work under the general supervision of engineers or other designated supervisors.

An Engineering Technician III typically –

1. acts as a technical specialist in one or more technical programs, such as:
 - a. conducting surveys and studies to monitor the effectiveness of water conservation efforts and structural changes designed to conserve heat/cooling
 - b. analyzing samples of solutions taken from steam absorption machines and chilled and hot water systems to monitor corrosion control
 - c. testing for concentrations of corrosion inhibitors, pH, ethylene, glycol, etc. and making necessary chemical adjustments
 - d. supervising the preparation of calcium chloride and chemical cleaning solutions
2. investigates hazardous-condition reports and accident reports and recommends corrective action
3. analyzes equipment or electrical/mechanical system failures, determines cause, and recommends methods to prevent future failures
4. prepares budget estimates for required maintenance and repair work
5. collects, interprets, and analyzes data obtained through surveys and investigations; prepares written and oral reports; and recommends solutions based on findings
6. assists in the planning and coordination of complex construction, remodeling, maintenance, and repair projects, such as:
 - a. determining scope of work and job limitations
 - b. determining material and craft requirements
 - c. preparing costs estimates, drawings, sketches, and specifications
 - d. ordering special materials or equipment
 - e. writing detailed work orders to schedule crafts involved
7. assists in supervising and training lower level Engineering Technicians and/or student employees, by instructing them in work procedures and methods and assigning and evaluating work activities
8. operates complex test instruments (such as analytical balances, atomic absorption spectrophotometers, centrifuges, pH meters, conducting bridges, and dissolved oxygen meters)
9. performs related duties as assigned

Employees in positions allocated to this class supervise the activities of Engineering Technicians, coordinate repair and maintenance work, and perform technical inspections of building facilities and systems. They work under the administrative supervision of a designated supervisor.

A Building Maintenance Coordinator typically –

1. supervises Engineering Technicians performing building inspections: plans and assigns work, determines priorities, and evaluates work activities
2. conducts complex or emergency inspections of buildings and electrical/ mechanical systems to identify the need for repair and maintenance work
3. analyzes reports and recommendations for and about repairs to buildings and systems to determine corrective actions
4. prepares reports and recommendations for major repairs, including work description, justification, and budget estimate
5. assists in the preparation of building and systems inspection schedules
6. issues work orders for repairs to building maintenance craft and coordinates scheduling of work
7. investigates requests concerning repair and maintenance work submitted by campus units
8. performs related duties as assigned

MINIMUM ACCEPTABLE QUALIFICATIONS FOR ENTRY INTO

Level I: Engineering Technician I

3970

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. any one, or any combination, of the following types of preparation:
 - (a) work experience in building construction/maintenance and/or a field of engineering related to building construction/maintenance (such as civil, electrical, or mechanical engineering or technology)
 - (b) credit for course work comparable to that gained during the first academic year of full-time enrollment in a college curriculum in, or closely related to, building construction/maintenance (such as programs in architecture or architectural technology, civil engineering or construction technology, or mechanical engineering or technology)

that totals 1.0 unit according to the following conversion rates

9 months of “a” = 1.0 unit

30 semester hours of “b” = 1.0 unit

Amounts of experience or training less than those listed above should be converted to decimal equivalents of 1.0 unit and added together when computing combinations of the different types of preparation.

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. skill in performing algebraic, geometric, or trigonometric calculations
2. ability to perform basic drafting work
3. ability to use calculators, transits, levels, and surveying equipment
4. ability to interpret tables, charts, construction drawings, and specifications
5. ability to climb ladders and withstand sustained periods of physical activity
6. ability to work effectively with others

Level II: Engineering Technician II

3971

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. any one, or any combination, of the following types of preparation:
 - (a) progressively more responsible work experience in building construction/maintenance and/or a field of engineering related to building construction/maintenance (such as civil, electrical, or mechanical engineering or technology)
 - (b) credit for course work comparable to that gained during the first two academic years of full-time enrollment in a college curriculum in, or closely related to, building construction/maintenance (such as programs in architecture or architectural technology, civil engineering or construction technology, or electrical or mechanical engineering or technology)

that totals 1.0 unit according to the following conversion rates and complies with any specified stipulations:

18 months of "a" = 1.0 unit, provided that experience in excess of 9 months was at a level comparable to Level I of this series

60 semester hours (or Associate degree) in "b" = 1.0 unit

Amounts of experience or training less than those listed above should be converted to decimal equivalents of 1.0 unit and added together when computing combinations of the different types of preparations

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. possession of attribute requirements listed for Level I of this series
2. knowledge of experimental, analytical, and field techniques
3. basic knowledge of data processing equipment and techniques
4. ability to analyze data and prepare written reports
5. ability to coordinate the work of others

Level III: Engineering Technician III**4627(3971)****CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER**

1. 9 months of work experience comparable to Level II of this series
2. any one, or any combination, of the following types of additional preparation:
 - (a) progressively more responsible work experience in building construction/maintenance and/or a field of engineering related to building construction/maintenance (such as civil, electrical, or mechanical engineering or technology)
 - (b) credit for course work comparable to that gained during three progressively more advanced academic years of full-time enrollment in a college curriculum(-a) in, or closely related to, building construction/maintenance (such as programs in architectural technology and/or architecture, construction technology and/or civil engineering, or electrical or mechanical technology and/or engineering)

that totals 1.0 unit according to the following conversion rates and complies with any specified stipulations:

27 months of "a" = 1.0 unit, provided that experience in excess of 18 months was at a level comparable to Level II of this series

90 semester hours of "b" = 1.0 unit

Amounts of experience or training less than those listed above should be converted to decimal equivalents of 1.0 unit and added together when computing combinations of the different types of preparation.

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. possession of the attribute requirements listed for the lower levels of this series
2. working knowledge of general engineering technology

3. ability to express technical findings and recommendations in written or oral forms that can be readily understood by technical and nontechnical personnel
4. supervisory ability

Level IV: Building Maintenance Coordinator**2161(0919)****CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER**

1. possession of credential requirements for Level III of this series
2. 12 months of work experience comparable to Level III of this series

PERSONAL ATTRIBUTES NEEDED TO UNDERTAKE JOB

1. possession of attribute requirements listed for the lower levels of this series
2. knowledge of building craft jurisdiction and building-construction methods and materials
3. ability to supervise, coordinate, and schedule the work of others

Engineering Technician I.....	REVISED
Engineering Technician II	REVISED
Engineering Technician III	NEW
Building Maintenance Coordinator	REVISED